Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of cla n:

Listing of Claims:

1-6. (canceled)

7. (Currently amended) A method to determine the risk of cancer recurrence in a human subject afflicted with ER+ (estrogen receptor positive) breast cancer, said method comprising

determining an expected cancer recurrence for said subject by assaying a sample of breast cancer cells from said subject for a ratio of HoxB13 and IL17BR RNA expression levels that is higher than the mean (average) ratio of HoxB13 and IL17BR RNA expression levels in ER+ breast cancer cells; or

determining an expected lack of cancer recurrence for said subject by assaying a sample of breast cancer cells from said subject for a ratio of HoxB13 and IL17BR RNA expression levels that is below the mean (average) ratio of HoxB13 and IL17BR RNA expression levels in ER+ breast cancer cells;

wherein said mean (average) ratio of HoxB13 and IL17BR RNA expression levels is determined from the mean (average) of HoxB13 RNA expression levels, and the mean (average) of IL17BR RNA expression levels, in ER+ breast cancer cell samples from human breast cancer subjects that respond to treatment with tamoxifen and human breast cancer subjects that do not respond to treatment with tamoxifen.

8-13. (canceled)

14. (Currently amended) A method of determining the outcome of a human subject having ER+ (estrogen receptor positive) breast cancer, or of a subject afflicted with ER+ breast cancer, if said subject is treated with tamoxifen, said method comprising:

assaying a breast cancer cell sample from said subject wherein

a ratio of HoxB13 and IL17BR RNA expression levels that is below the mean (average) ratio of HoxB13 and IL17BR expression levels in ER+ breast cancer cells indicates a cancer-free outcome, and

a ratio above the mean (average) ratio of HoxB13 and IL17BR RNA expression levels in ER+ breast cancer cells indicates an outcome comprising cancer recurrence;

wherein said mean (average) ratio of HoxB13 and IL17BR RNA expression levels is determined from the mean (average) of HoxB13 RNA expression levels, and the mean (average) of IL17BR RNA expression levels, in ER+ breast cancer cell samples from human breast cancer subjects that respond to treatment with tamoxifen and human breast cancer subjects that do not respond to treatment with tamoxifen.

15-22. (canceled)

23. (Currently amended) A method to ~~determine therapeutic treatment for an ER+ (estrogen receptor positive) breast cancer patient based upon said patient's~~ predict an expected lack of response to tamoxifen treatment in a human ER+ (estrogen receptor positive) breast cancer patient, said method comprising

determining an expected lack of response to tamoxifen treatment for said patient by assaying a sample of breast cancer cells from said patient for a ratio of HoxB13 and IL17BR expression levels that is higher than the mean (average) ratio of HoxB13 and IL17BR expression levels in ER+ breast cancer cells; ~~and~~

~~selecting appropriate treatment for a patient where lack of responsiveness is indicated~~ wherein said mean (average) ratio of HoxB13 and IL17BR RNA expression levels is determined from the mean (average) of HoxB13 RNA expression levels, and the mean (average) of IL17BR RNA expression levels, in ER+ breast cancer cell samples from human breast cancer subjects that respond to treatment with tamoxifen and human breast cancer subjects that do not respond to treatment with tamoxifen.

24-38. (canceled)

39. (Currently amended) A method to determine risk of cancer recurrence in a human subject having ER+ (estrogen receptor positive) breast cancer if treated with tamoxifen, said method comprising

assaying a sample of breast cells from said subject for

increased expression of human HOXB13 sequences, or decreased expression of IL17BR sequences, relative to the mean (average) expression thereof in [[a]] ER+ breast cancer cell samples from human breast cancer subjects that respond to treatment with tamoxifen and human breast cancer subjects that do not respond to treatment with tamoxifen, as an indicator of tamoxifen non-responsiveness; or

decreased expression of human HOXB13 sequences, or increased ~~or decreased~~ expression of IL17BR sequences, relative to the mean (average) expression thereof in [[a]] ER+ breast cancer cell samples from human breast cancer subjects that respond to treatment with tamoxifen and human breast cancer subjects that do not respond to treatment with tamoxifen, as an indicator of tamoxifen responsiveness.

40-73. (canceled)

74. (Currently amended) The method of claim 7 wherein said assaying comprises determining the expression levels of HoxB13 and IL17BR mRNAs.

75. (canceled)

76. (Currently amended) The method of claim 7 wherein said assaying for the expression levels of HoxB13 and IL17BR RNA comprises ~~detection of nucleic acids~~ mRNA amplification from said sample of breast cancer cells.

77. (Currently amended) The method of ~~claim 76~~ claim 7 wherein said ~~nucleic acids derived from said sample are prepared by mRNA amplification or~~ RNA expression levels are determined by quantitative PCR.

78. (Currently amended) The method of claim 7 wherein said assaying comprises ~~using an array~~ RT-PCR (reverse transcription polymerase chain reaction).

79. (Currently amended) The method of claim 7 wherein said sample is a formalin fixed paraffin embedded (FFPE), ductal lavage or fine needle aspiration sample.

80. (Previously presented) The method of claim 7 wherein said sample is a section of tissue from a subject or comprises cells microdissected from said section.

81. (Previously presented) The method of claim 7, wherein said assaying for expression of a HoxB13 sequence comprises assaying for expression of a sequence selected from SEQ ID NOS: 6, 7, 10 or 11-31.

82. (Previously presented) The method of claim 7, wherein said assaying for expression of an IL17BR sequence comprises assaying for expression of a sequence selected from SEQ ID NOS: 1, 2, 3, or 8.

83. (Currently amended) The method of claim 14 wherein said assaying comprises determining the expression levels of HoxB13 and IL17BR mRNAs.

84. (canceled)

85. (Currently amended) The method of claim 14 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises ~~detection of nucleic acids~~ mRNA amplification from said sample of ER+ breast cancer cells.

86. (Currently amended) The method of ~~claim 85~~ claim 14 wherein said ~~nucleic acids from said sample are prepared by mRNA amplification or~~ RNA expression levels are determined by quantitative PCR.

87. (Currently amended) The method of claim 14 wherein said assaying comprises ~~using an array~~ RT-PCR (reverse transcription polymerase chain reaction).

88. (Currently amended) The method of claim 14 wherein said sample is a formalin fixed paraffin embedded (FFPE), ductal lavage or fine needle aspiration sample.

89. (Previously presented) The method of claim 14 wherein said sample is a section of tissue from a subject or comprises cells microdissected from said section.

90. (Previously presented) The method of claim 14, wherein said assaying for expression of a HoxB13 sequence comprises assaying for expression of a sequence selected from SEQ ID NOS: 6, 7, 10 or 11-31.

91. (Previously presented) The method of claim 14, wherein said assaying for expression of an IL17BR sequence comprises assaying for expression of a sequence selected from SEQ ID NOS: 1, 2, 3, or 8.

92. (Currently amended) The method of claim 23 wherein said assaying comprises determining the expression levels of HoxB13 and IL17BR mRNAs.

93. (canceled)

94. (Currently amended) The method of claim 23 wherein said assaying comprises ~~detecting nucleic acid expression in~~ mRNA amplification from said sample of ER+ breast cancer cells.

95. (Currently amended) The method of ~~claim 94~~ claim 23 wherein said ~~nucleic acids from said sample are prepared by mRNA amplification or~~ RNA expression levels are determined by quantitative PCR.

96. (Currently amended) The method of claim 23 wherein said assaying comprises ~~using an array~~ RT-PCR (reverse transcription polymerase chain reaction).

97. (Currently amended) The method of claim 23 wherein said sample is a formalin fixed paraffin embedded (FFPE), ductal lavage or fine needle aspiration sample.

98. (Previously presented) The method of claim 23 wherein said sample is a section of tissue from a subject or comprises cells microdissected from said section.

99. (Previously presented) The method of claim 23, wherein said assaying for expression of a HoxB13 sequence comprises assaying for expression of a sequence selected from SEQ ID NOS: 6, 7, 10 or 11-31.

100. (Previously presented) The method of claim 23, wherein said assaying for expression of an IL17BR sequence comprises assaying for expression of a sequence selected from SEQ ID NOS: 1, 2, 3, or 8.

101. (Currently amended) The method of claim 39 wherein said assaying comprises determining the expression levels of HoxB13 and IL17BR mRNAs.

102. (canceled)

103. (Currently amended) The method of claim 39 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises ~~detection of nucleic acids~~ mRNA amplification from said sample of ER+ breast cancer cells.

104. (Currently amended) The method of ~~claim 103~~ claim 39 wherein said ~~nucleic acids from said sample are prepared by mRNA amplification or~~ RNA expression levels are determined by quantitative PCR.

105. (Currently amended) The method of claim 39 wherein said assaying comprises ~~using an array~~ RT-PCR (reverse transcription polymerase chain reaction).

106. (Currently amended) The method of claim 39 wherein said sample is a formalin fixed paraffin embedded (FFPE), ductal lavage or fine needle aspiration sample.

107. (Previously presented) The method of claim 39 wherein said sample is a section of tissue from a subject or comprises cells microdissected from said section.

108. (Previously presented) The method of claim 39 wherein said sample is obtained by solid tissue biopsy or a non-invasive procedure.

109. (canceled)

110. (Previously presented) The method of claim 39, wherein said assaying for expression of a HoxB13 sequence comprises assaying for expression of a sequence selected from SEQ ID NOS: 6, 7, 10 or 11-31.

111. (Previously presented) The method of claim 39, wherein said assaying for expression of an IL17BR sequence comprises assaying for expression of a sequence selected from SEQ ID NOS: 1, 2, 3, or 8.

112. (Previously presented) The method of claim 7 wherein said assaying comprises hybridization to a polynucleotide comprising sequences of at least 24 nucleotides from the 3' untranslated region, the coding region, or the 5' untranslated region, of a human HOXB13 or IL17BR RNA transcript.

113. (Previously presented) The method of claim 14 wherein said assaying comprises hybridization to a polynucleotide comprising sequences of at least 24 nucleotides from the 3' untranslated region, the coding region, or the 5' untranslated region, of a human HOXB13 or IL17BR RNA transcript.

114. (Previously presented) The method of claim 23 wherein said assaying comprises hybridization to a polynucleotide comprising sequences of at least 24 nucleotides from the 3' untranslated region, the coding region, or the 5' untranslated region, of a human HOXB13 or IL17BR RNA transcript.

115. (Previously presented) The method of claim 39 wherein said assaying comprises hybridization to a polynucleotide comprising sequences of at least 24 nucleotides from the 3' untranslated region, the coding region, or the 5' untranslated region, of a human HOXB13 or IL17BR RNA transcript.

116. (Previously presented) The method of claim 14 wherein said breast-cancer-free subject has a low risk of cancer tumor recurrence.

117. (Currently amended) The method of claim 14 wherein said ~~survival~~ outcome comprises survival outcome ~~is breast cancer recurrence~~.

118-121. (canceled)